THE OFFICE OF REGULATORY STAFF

DIRECT TESTIMONY & EXHIBITS

OF

LYNDA SLEIGHER SHAFER

August 18, 2014

DOCKET NO. 2014-3-E

Annual Review of Base Rates for Fuel Costs of Duke Energy Carolinas, LLC

DIRECT TESTIMONY AND EXHIBITS OF

LYNDA SLEIGHER SHAFER

ON BEHALF OF

THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF

DOCKET NO. 2014-3-E

IN RE: ANNUAL REVIEW OF BASE RATES FOR FUEL COSTS

OF DUKE ENERGY CAROLINAS, LLC

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.

A. My name is Lynda Sleigher Shafer. My business address is 1401 Main Street, Suite 900, Columbia, South Carolina 29201. I am employed by the State of South Carolina as an Electric Utilities Specialist in the Electric Department for the Office of Regulatory Staff ("ORS").

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received a Bachelor's Degree from Bob Jones University in 1995 and a Master's Degree from the University of South Carolina in 2010. I joined ORS in July 2009 as a Program Specialist and became an Electric Utilities Specialist in 2013. I have previously appeared before the Public Service Commission of South Carolina ("Commission") to present telecommunications market issues in an allowable ex-parte proceeding and also to testify in two (2) electric rate cases.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to set forth the Electric Department's findings and recommendations resulting from ORS's examination of Duke Energy Carolinas, LLC's ("Duke" or "Company") fuel expenses and power plant operations used in the generation of electricity to meet the Company's South Carolina retail customer requirements during the period under review. The review period includes actual data for June 2013 through May 2014, estimated data for June 2014 through September 2014, and forecasted data for October 2014 through September 2015.

Q. WHAT AREAS WERE ENCOMPASSED IN YOUR REVIEW OF THE COMPANY'S FUEL EXPENSES AND PLANT OPERATIONS?

A. As part of its review, ORS examines a number of documents relating to fuel and plant performance. For instance, ORS examines the Company's monthly fuel reports which include power plant performance data, unit outages and generation statistics. Additionally, ORS reviews contracts for nuclear fuel, coal, natural gas, fuel oil, fuel transportation, and environmental reagents. ORS also evaluates the Company's policies and procedures for fuel procurement, including natural gas purchases for the operation of the Company's natural gas-fueled generating facilities. All data is reviewed and analyzed for its impact on the Company's existing Adjustment for Fuel and Variable Environmental Costs tariff and its compliance with the Fuel Clause statute.

Q. WHAT ADDITIONAL STEPS WERE TAKEN IN ORS'S REVIEW OF THE COMPANY'S PROPOSAL IN THIS PROCEEDING?

A. ORS met with Company personnel from various departments to discuss and review fossil and nuclear fuel procurement, fuel transportation, environmental reagents, emission allowances, plant performance, joint dispatching, forecasting, and resource planning. These meetings occurred at ORS offices as well as the Company's headquarters in Charlotte, NC. In addition, ORS is updated on a daily basis through industry and government publications related to nuclear, coal, natural gas, and transportation industries. ORS attended meetings hosted by the Nuclear Regulatory Commission ("NRC") during April and May 2014 for the Catawba and Oconee nuclear generation stations in Rock Hill and Seneca, SC, respectively. ORS also conducted on-site visits of the Lee and Cliffside coal generation plants.

Q. DID ORS EXAMINE THE COMPANY'S PLANT OPERATIONS FOR THE REVIEW PERIOD?

A. Yes. ORS reviewed the performance of the Company's generation facilities to determine if the Company made reasonable efforts to minimize fuel costs. ORS also reviewed the availability and capacity factors of the Company's power plants by unit. Exhibit LSS-1 shows, in percentages, the monthly availability factors of the Company's major generation units. The corresponding capacity factors in Exhibit LSS-2 indicate each unit's monthly utilization for the production of power.

Q. PLEASE EXPLAIN THE SIGNIFICANCE OF PLANT AVAILABILITY AND HOW IT IS USED IN ORS'S EVALUATION OF THE COMPANY'S PLANT PERFORMANCE.

A. Exhibit LSS-1 tracks monthly availability by generation unit during the review period. ORS reviews all occurrences and investigates, when necessary, those that result in a unit displaying less than 100% availability. ORS pays particularly close attention to those occurrences which cause a unit's availability to be reduced to zero. Exhibits LSS-3, LSS-4, and LSS-5 summarize major outages for the Company's larger coal and natural gas units and all nuclear units during the review period. Exhibits LSS-1 through LSS-5 are used in concert by ORS to evaluate the Company's plant operations. For example, Exhibit LSS-1 shows that Belews Creek Unit 1 had 0.0% availability for the month of November 2013. Exhibit LSS-2 shows that the capacity during that same time period was also 0.0%. Exhibit LSS-3 explains that the unit was undergoing a planned outage to service and replace generator stator windings, bushings and terminals from October 5, 2013, through December 14, 2013, and was not available to generate electricity during this time.

Q. PLEASE EXPLAIN HOW THE OUTAGES ARE REPRESENTED ON EXHIBITS LSS-3 THROUGH LSS-5.

A. Exhibits LSS-3 and LSS-4 summarize outages lasting for seven or more days for major coal and natural gas units. While not all plant outages are included in these Exhibits, all outages are reviewed by ORS. Exhibit LSS-5 summarizes all nuclear plant outages during the review period.

Q. PLEASE ADDRESS THE OUTAGES AT THE COMPANY'S THREE NUCLEAR STATIONS.

A. Exhibit LSS-5 shows the duration, type, and cause of the outages at the Company's nuclear stations. Eight (8) separate outages were completed during the review period, including four (4) forced outages and four (4) scheduled refueling outages. ORS noted that three (3) of the refueling outages were extended beyond their allotted duration. The extensions were due primarily to aggressive time tables and occasionally to issues that emerged during the outages and needed to be addressed while the units were offline. An additional refueling outage began during the review period but concluded outside of the period under review. Consequently, it will be examined as part of next year's fuel review. Including these outages, the three (3) nuclear stations, which house a total of seven (7) units, achieved an overall availability factor of 92.1% and a capacity factor of 93.6% for the review period as shown in Exhibits LSS-1 and LSS-2 respectively.

Q. PLEASE ELABORATE ON OTHER AREAS OF THE COMPANY'S PLANT OPERATIONS THAT WERE REVIEWED BY ORS.

A. Exhibit LSS-6 provides a history of the availability of the Company's coal, natural gas combined-cycle, and nuclear generation plants for 2009 through the review period. This Exhibit includes the North American Electric Reliability Corporation's ("NERC") national five-year (2009-2013) average availability for each type of generation plant. During the review period, the Company's combined-cycle and nuclear units performed better than the NERC five-year average. The

Company's coal units fell below the NERC five-year average for power plant availability.

Exhibit LSS-7 provides the average forced outage factors for the Company's coal, natural gas combined-cycle, and nuclear generation plants for the same time period. On average, during the review period, the Company's coal, combined-cycle, and nuclear units had lower forced outage factors than the NERC five-year average for generating plants nationwide.

However, ORS notes that individual Company coal units experienced forced outage factors that were higher than the NERC five-year average. During this review period, two (2) coal units had forced outage factors higher the NERC average of 4.60%. Marshall Unit 3 had a forced outage factor of 8.06% as a result of extending a planned outage for a major turbine overhaul in the spring of 2013, as shown on Exhibit LSS-3. Although the unit was scheduled to return to service June 1, 2013, it was delayed until July 20, 2013, to allow time to correct work previously performed during the same outage.

Marshall Unit 4 began a forced outage in April 2014 to perform a generator stator restack. This outage is to continue until December 2014 and will be reviewed as part of next year's fuel review. ORS will continue to monitor the Company's progress toward reducing the forced outage factors of its coal units.

Additionally, ORS recognizes that at times individual Company nuclear units have experienced forced outage factors higher than the NERC five-year average. For example, during the review period, Oconee Unit 1 had a forced outage factor of 5.69% as compared to the NERC five-year average of 3.53%. This elevated

percentage can be attributed to the forced outage, which occurred from November 11, 2013, through December 2, 2013. ORS will continue to monitor the performance of the Company's nuclear units.

Q. DID ORS REVIEW THE COMPANY'S GENERATION MIX DURING THE REVIEW PERIOD?

A. Yes. Exhibit LSS-8 shows the megawatt-hour ("MWh") generation mix for the review period by percentage and generation type. As shown in this Exhibit, the coal and nuclear plants contributed approximately 84.1% of the Company's generation throughout the review period. Jointly, the combined-cycle and combustion turbine natural gas-fired plants contributed approximately 7.5% of the generation. The remainder of the generation was met through a mix of hydroelectric, purchased power, and Joint Dispatch Agreement ("JDA") purchases.

Q. DID ORS EXAMINE THE COMPANY'S FUEL COSTS ON A PLANT-BY-PLANT BASIS FOR THE REVIEW PERIOD?

A. Yes. Exhibit LSS-9 shows the average fuel costs and the MWhs produced during the review period by the major generation plants on the Company's system. ORS's review revealed the lowest average fuel cost of 0.618 cents/kilowatt-hour ("kWh") at the McGuire Nuclear Station and the highest average fuel cost of 4.423 cents/kWh at the Allen coal plants. The Company utilizes economic dispatch which generally requires that the lower cost units are dispatched first.

Q. DID ORS REVIEW THE COMPANY'S ENVIRONMENTAL RELATED COSTS?

A. Yes. ORS reviewed the Company's environmental costs including allowances for nitrogen oxide ("NO_X") and sulfur dioxide ("SO_2") emissions and reagents and other chemicals used in the reduction of these emissions. Along with ammonia, lime, and limestone, ORS reviewed the Company's use of magnesium hydroxide, calcium carbonate, and other emission-reducing reagents in its power plants. The use of these chemicals and reagents reduces the Company's NO_X and SO_2 emissions, and the costs associated with the use of these substances are included in the Company's Adjustment for Fuel and Variable Environmental Costs as provided by S.C. Code Ann. § 58-27-865.

Q. WHAT IS ORS'S RECOMMENDATION CONCERNING THE INCLUSION OF AVOIDED COSTS HISTORICALLY RECOVERED IN BASE RATES?

A. ORS has reviewed the Company's interpretation of the amended fuel statute in 2014 S.C. Acts 236 ("Act 236") and the inclusion of avoided costs under the Public Utility Regulatory Policy Act of 1978 ("PURPA"). The Company is allocating and recovering the capacity component of avoided costs based on the same method used to allocate and recover variable environmental costs as required by Section 58-27-865(A)(1)(b) of the revised statute. The costs associated with energy are being added to purchased power expense. The Company has also included a true-up for costs recovered through base rates during the period between June 2, 2014, when Act 236 became effective, and when the rates become effective on October 1, 2014. ORS agrees with the Company's interpretation of Act 236 and its method of including

PURPA-related avoided costs in the fuel calculation. However, actual expenses and revenue will not be reviewed and audited by ORS until next year's annual fuel review.

Q. HAS ORS REVIEWED THE ACCURACY OF THE COMPANY'S FORECAST?

A. Yes. As shown in Exhibit LSS-10, the Company's actual MWh sales were 0.51% lower than expected during the review period. In addition, Exhibit LSS-11 shows that on average the actual fuel costs for the review period were 6.28% higher than the projected monthly fuel costs.

Q. HAS ORS REVIEWED THE COMPANY'S SAVINGS FROM THE JOINT DISPATCH AGREEMENT AND MERGER-RELATED SAVINGS?

A. Yes. As part of this proceeding, ORS reviewed the Company's methodology for tracking savings from the JDA between DEC and Duke Energy Progress, Inc., (collectively referred to as the "Companies") and the system fuel and fuel-related cost savings resulting from the merger ("Merger Fuel Savings") of Duke Energy Corporation and Progress Energy, Inc. Consistent with Commission Order No. 2013-311, ORS reviews the JDA and Merger Fuel Savings as detailed in the monthly fuel reports and the South Carolina Quarterly Surveillance Reports filed with the Commission. Additionally, ORS monitors the allocation of these savings between the Companies and between South Carolina and North Carolina. Through May 2014, the Companies report savings of approximately $298.5 million of the $686.8 million in savings guaranteed by the Company. As of May 2014, DEC reports allocating approximately $46.3 million in savings to its South Carolina retail ratepayers. These

savings include the recalculation of natural gas capacity savings as a result of DEC's settlement with the North Carolina Public Staff, discussed more thoroughly in ORS witness Dawn Hipp's testimony.

Q. WHAT OTHER INFORMATION HAS ORS REVIEWED AS PART OF ITS EVALUATION IN THIS PROCEEDING?

A. Exhibit LSS-12 shows the balances of fuel cost collections beginning in May 1994. The Company has experienced both under-recovery and over-recovery balances throughout the past twenty years. As of May 2014, the balance in the cumulative recovery account is an under-recovery of $35,958,217, as shown on Exhibit LSS-12. As testified to by ORS witness Robert Lawyer, this balance includes adjustments made by ORS in May 2014 totaling $3,007,343. This number was provided by the ORS Audit Department and can be found on ORS Audit Exhibit RAL-5. This number does not include the environmental cost component, which had a cumulative over-recovery of $1,788,254 as of May 2014 as seen on ORS Audit Exhibit RAL-7, page 2.

Q. WHAT OTHER SOURCES OF INFORMATION DOES ORS USE IN DETERMINING THE REASONABLENESS OF A UTILITY'S REQUEST FOR A FUEL COST COMPONENT?

A. ORS routinely 1) reviews private and public industry publications as well as those available on the Energy Information Administration's website; 2) conducts meetings with Company personnel; 3) attends industry conferences; and 4) reviews information filed monthly by electric generation utilities with the federal government.

Q. HAS ORS DETERMINED THE CORE CAUSES OF THE COMPANY'S REQUEST FOR AN INCREASE IN THE FUEL FACTOR ASSOCIATED WITH THIS PROCEEDING?

A. Yes. ORS has determined that the Company's request for an increase is driven primarily by the under-recovery of fuel costs resulting from two circumstances unique to this filing. First, extreme winter weather caused fuel and transportation costs to be much higher than projected in the first quarter of this year. Second, as part of Docket No. 2013-3-E, the Company agreed to reduce its projected fuel cost by $30 million and defer the commencement of recovery until October 2014. As a result, the under-recovery includes this deferral and associated carrying costs.

Q. DOES ORS RECOMMEND ANY ADJUSTMENTS TO THE BASE FUEL COSTS PROPOSED BY THE COMPANY?

A. Yes. ORS recommends making an over-recovery adjustment of $490,428 to the Company's base fuel costs to recognize the cost of replacement power due to the extended outage at Marshall Unit 3 as shown in Exhibit LSS-3.

ORS recommends making an additional adjustment to account for excess coal inventory carrying costs that were approved in Order No. 2013-661 (Docket No. 2013-59-E). A portion of the coal included in the carrying cost calculation was subsequently sold before reaching the Company's inventory and should not have been included in this calculation. Therefore, ORS recommends applying a reduction of $2,418,974, the amount of the carrying costs attributed to the coal that was sold off-system, to the under-recovery balance.

Both of the above-referenced adjustments and the non-fuel settlement discussed in ORS witness Dawn Hipp's testimony were provided to the ORS Audit Department and are reflected in Audit Exhibit RAL-5.

Q. ARE THERE ANY ADDITIONAL FACTORS THAT WILL IMPACT CUSTOMERS' BILLS?

A. Yes, the Company has proposed a base rate reduction associated with the implementation of Act 236.

Q. DOES ORS SUPPORT THE REDUCTION TO BASE RATES PROPOSED BY THE COMPANY?

A. Yes. ORS agrees that a reduction to base rates is appropriate to avoid a double recovery of PURPA-related avoided costs which will now be recovered through the fuel statute as set forth in Act 236. ORS has reviewed and agrees with the Company's method of calculating the base rate reduction of .0474 cents/kWh proposed by DEC witness Kim Smith.

Q. WHAT IMPACT WILL ORS'S PROPOSED FUEL FACTOR AND THE ADDITIONAL FACTORS HAVE ON A RESIDENTIAL CUSTOMER'S BILL?

A. As shown in Exhibit LSS-13, the ORS proposed base fuel factor is 2.4311 cents/kWh compared to the Company's proposed base fuel factor of 2.4451 cents/kWh. Exhibit LSS-14 reflects the ORS proposed base fuel rate and the ORS recommended environmental rates for Residential, General/Lighting, and Industrial customer classes. If approved by the Commission, the rates proposed by ORS would increase the average monthly bill for a residential customer using 1000 kWh on Rate

RS by approximately $4.50 or 4.07%. However, since the base rate reduction, if approved by the Commission, will become effective at the same time as the fuel factor, the average monthly bill for a residential customer using 1,000 kWh on Rate RS will change from $110.46 to approximately $114.49, a net increase of $4.03 or 3.65%.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Office of Regulatory Staff

Power Plant Performance Data Report - Availability Factors (Percentage)

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

			Historical Data			*Review Period (Actual) Data*												
Plant	Unit	MW Rating	2011	2012	2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Average Review Pd.
Belews Creek	1	1110	90.9	91.4	74.0	100.0	100.0	100.0	100.0	13.2	0.0	30.7	99.1	100.0	92.3	97.3	83.5	**76.2**
Belews Creek	2	1110	91.6	86.9	85.9	100.0	100.0	74.2	46.1	100.0	100.0	100.0	100.0	100.0	93.0	80.1	99.2	**91.1**
Cliffside	5	552	93.8	90.5	91.8	100.0	88.2	81.0	97.6	88.7	98.7	56.9	100.0	86.4	95.3	100.0	79.2	**89.3**
Cliffside	6	825	n/a	n/a	82.2	100.0	72.2	96.4	61.1	48.3	100.0	92.7	100.0	75.5	0.0	16.5	95.2	**71.5**
Marshall	1	380	71.0	86.8	90.1	94.8	95.3	63.4	88.4	100.0	73.8	93.3	92.1	100.0	100.0	87.8	100.0	**90.7**
Marshall	2	380	88.2	90.7	89.9	68.6	94.7	95.4	89.3	95.8	72.6	95.9	88.2	92.6	100.0	100.0	96.5	**90.9**
Marshall	3	658	91.6	90.2	47.4	0.0	8.5	58.4	74.3	98.3	89.9	46.4	100.0	99.5	100.0	81.0	92.9	**70.6**
Marshall	4	660	89.7	88.2	84.4	91.4	96.4	89.6	100.0	100.0	100.0	100.0	100.0	63.8	91.2	65.3	0.0	**83.2**
Coal Total		**5,675**	**89.6**	**89.3**	**80.7**	**81.9**	**81.9**	**82.3**	**82.1**	**80.5**	**79.4**	**77.7**	**97.4**	**89.7**	**84.0**	**78.5**	**80.8**	**82.9**
Buck	10	631	n/a	89.9	93.0	100.0	100.0	100.0	100.0	83.8	78.2	90.3	99.7	100.0	82.6	100.0	100.0	**93.0**
Dan River	7	637	n/a	n/a	90.4	97.2	97.1	100.0	100.0	57.8	76.7	99.9	98.2	100.0	84.6	100.0	98.5	**90.8**
CC Total [1]		**1,268**	**n/a**	**89.9**	**91.7**	**98.6**	**98.5**	**100.0**	**100.0**	**70.8**	**77.4**	**95.1**	**98.9**	**100.0**	**83.6**	**100.0**	**99.2**	**91.9**
Catawba	1 [2]	1140	87.2	87.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	16.7	**92.9**
Catawba	2 [3]	1150	99.5	89.4	90.7	100.0	100.0	100.0	43.9	45.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	**90.7**
McGuire	1	1139	91.1	100.0	88.4	100.0	100.0	100.0	100.0	100.0	93.6	100.0	100.0	100.0	100.0	100.0	100.0	**99.5**
McGuire	2	1140	88.0	78.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	68.2	21.1	100.0	**90.8**
Oconee	1	847	79.0	90.0	94.3	100.0	100.0	100.0	100.0	100.0	34.3	96.4	100.0	100.0	100.0	100.0	100.0	**94.3**
Oconee	2	848	92.5	99.7	85.1	100.0	100.0	100.0	100.0	35.6	0.0	86.0	100.0	100.0	100.0	100.0	100.0	**85.1**
Oconee	3	859	99.7	85.1	99.3	100.0	100.0	100.0	100.0	91.9	100.0	100.0	100.0	100.0	100.0	46.4	54.9	**91.1**
Nuclear Total		**7,123**	**91.0**	**90.0**	**94.0**	**100.0**	**100.0**	**100.0**	**91.8**	**81.8**	**75.4**	**97.5**	**100.0**	**100.0**	**95.5**	**81.1**	**81.7**	**92.1**

[1] CC designates Combined-Cycle units.

[2] Catawba Unit 1 Ownership: North Carolina Electric Membership Corp. (~61.51%) and Duke Energy Carolinas, LLC (~38.49%)

[3] Catawba Unit 2 Ownership: North Carolina Municipal Power Agency No. 1 (75%) and Piedmont Municipal Power Agency (25%)

EXHIBIT LSS-1

Office of Regulatory Staff

Power Plant Performance Data Report - Capacity Factors (Percentage)

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

			Historical Data				*Review Period (Actual) Data*												
Plant	Unit	MW Rating	Life[1] Time	2011	2012	2013	Jun 2013	Jul 2013	Aug 2013	Sept 2013	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Average Review Pd.
Belews Creek	1	1110	n/a	82.0	78.7	59.4	85.5	87.1	84.2	84.8	10.5	0.0	20.6	93.5	92.5	88.4	90.2	62.0	**66.6**
Belews Creek	2	1110	n/a	83.0	64.7	69.7	81.4	84.2	59.3	34.7	88.9	93.2	85.4	89.5	94.9	88.5	38.3	75.4	**76.1**
Cliffside	5	552	n/a	53.7	23.7	28.6	47.7	57.6	10.1	11.8	0.0	51.1	3.0	50.2	34.5	33.7	0.0	0.0	**25.0**
Cliffside	6	825	n/a	n/a	n/a	67.0	74.5	53.7	71.0	43.5	40.6	95.3	78.7	91.7	58.4	0.0	11.6	80.8	**58.3**
Marshall	1	380	n/a	42.9	32.2	39.5	49.4	52.9	35.1	22.9	21.9	54.3	41.6	59.3	80.2	68.7	17.8	64.6	**47.4**
Marshall	2	380	n/a	56.2	41.0	44.5	36.7	55.8	46.0	37.9	64.5	53.3	32.3	56.4	74.6	79.0	40.5	53.6	**52.5**
Marshall	3	658	n/a	69.1	56.2	32.4	0.0	3.1	34.9	49.6	81.1	75.8	24.4	87.3	91.0	90.3	46.9	67.7	**54.3**
Marshall	4	660	n/a	70.5	67.4	64.1	66.5	67.5	62.2	73.7	84.4	88.1	76.9	87.7	55.8	77.4	49.9	0.0	**65.8**
Coal Total		**5,675**	**n/a**	**70.6**	**58.0**	**52.5**	**59.4**	**63.9**	**53.5**	**50.2**	**52.0**	**57.8**	**44.2**	**82.1**	**75.9**	**67.2**	**42.0**	**54.4**	**59.5**
Buck	10	631	n/a	39.0	76.5	77.9	82.4	85.6	86.3	86.2	67.6	60.1	67.0	69.9	18.3	45.8	78.8	83.9	**69.3**
Dan River	7	637	n/a	n/a	n/a	73.0	75.8	76.1	86.9	85.9	49.5	69.1	66.9	70.5	26.2	27.9	81.4	74.5	**65.9**
CC Total		**1,268**	**n/a**	**n/a**	**76.5**	**75.4**	**82.4**	**85.6**	**86.3**	**86.2**	**67.6**	**60.1**	**67.0**	**70.2**	**22.3**	**36.8**	**80.1**	**79.2**	**67.6**
Catawba	1	1140	78.0	88.7	88.4	93.8	0.0	99.9	101.3	101.5	101.7	103.0	103.0	102.2	101.9	102.1	101.4	15.7	**86.1**
Catawba	2	1150	80.8	101.4	91.4	91.7	101.9	101.7	101.9	42.2	32.8	103.6	103.5	102.0	101.6	101.7	101.0	100.3	**91.2**
McGuire	1	1139	80.4	94.3	104.7	88.7	102.4	101.7	101.5	101.3	102.2	93.0	103.2	102.2	102.1	101.9	101.6	101.3	**101.2**
McGuire	2	1140	79.7	91.1	81.3	102.3	95.3	102.0	101.7	101.6	102.4	103.9	105.3	104.0	104.1	70.4	18.3	104.3	**92.8**
Oconee	1	847	85.0	79.4	90.2	95.4	101.6	101.1	100.4	100.2	100.3	33.2	97.6	102.2	102.0	102.0	102.0	101.8	**95.4**
Oconee	2	848	84.8	92.6	101.4	86.3	101.9	101.2	100.6	99.6	33.6	0.0	85.6	103.4	103.6	103.5	103.4	102.9	**86.6**
Oconee	3	859	86.1	102.6	86.2	101.9	103.1	102.5	101.8	101.4	90.1	102.2	103.2	101.9	102.0	101.5	45.0	53.0	**92.3**
Nuclear Total		**7,123**	**82.1**	**93.7**	**92.3**	**94.3**	**84.7**	**101.4**	**101.4**	**91.5**	**81.1**	**81.0**	**100.8**	**102.6**	**102.5**	**97.0**	**81.6**	**82.3**	**93.6**

[1] The Lifetime Nuclear Capacity Factors are through May 2014.

EXHIBIT LSS-2

EXHIBIT LSS-3

Office of Regulatory Staff

Coal Unit Outage Report - 7 Days or Greater Duration

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
Belews Creek 1	10/5/13	12/14/13	1,698.27	Planned and Extended	Maintenance and replacement of generator stator windings, bushings, and terminals
Belews Creek 2	8/23/13	9/14/13	517.97	Maintenance	Replacement of main transformer
Belews Creek 2	3/29/14	4/5/14	168.07	Planned	Routine boiler inspections
Cliffside 5	12/7/13	12/20/13	320.42	Planned	Replace the low pressure heater
Cliffside 6	9/21/13	10/17/13	625.00	Planned and Extended	Routine boiler inspections
Cliffside 6	2/28/14	4/26/14	1,350.97	Planned	Major turbine overhaul
Marshall 1	8/14/13	8/23/13	219.00	Maintenance	Repair turbine bearings
Marshall 1	11/15/13	11/23/13	188.90	Maintenance	Wet scrubber repairs
Marshall 2	11/15/13	11/24/13	197.37	Maintenance	Wet scrubber repairs
Marshall 3 [1]	3/1/13	7/20/13	3,398.60	Planned and Extended	Major turbine overhaul and superheater replacement
Marshall 3	8/22/13	9/8/13	404.22	Forced	Main turbine hydraulic piping failure
Marshall 3	12/4/13	12/20/13	399.12	Maintenance	Repair two main turbine bearings
Marshall 4 [2]	4/21/14	8/18/14	2,856.00	Forced	Generator ground in stator necessitating a restack

[1] Outage began before the Review Period.

[2] Outage will conclude after the Review Period.

EXHIBIT LSS-4

Office of Regulatory Staff
CC Unit Outage Report - 7 Days or Greater Duration
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
Buck 10	10/26/13	11/6/13	257.07	lanned and Extend	Generator bushing inspection and replacement
Buck 10	3/1/14	3/11/14	257.98	Planned and Extended	Inspection and resulting valve work
Dan River 7	10/18/13	11/1/13	319.55	Planned and Extended	Routine inspection and resulting repairs
Dan River 7	3/15/14	3/23/14	200.57	Planned	Routine inspection and repair

EXHIBIT LSS-5

Office of Regulatory Staff
Nuclear Unit Outage Report
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

Unit	Date Offline	Date Online	Hours	Outage Type	Explanation of Outage
Catawba 1 [1]	5/6/14	6/27/14	1,248.00	Planned	Scheduled refueling outage
Catawba 2	9/14/13	10/13/13	696.00	Planned	Scheduled refueling outage
Catawba 2	10/13/13	10/18/13	117.15	Outage Extension	Outage exceeded allocated days
McGuire 1	11/14/13	11/16/13	45.98	Forced	Reactor tripped to address rod control issues
McGuire 2	3/22/14	4/22/14	744.00	Planned	Scheduled refueling outage
McGuire 2	4/22/14	4/24/14	60.27	Outage Extension	Outage exceeded allocated days
Oconee 1	11/11/13	12/2/13	500.15	Forced	Pressure Boundary Leakage requiring weld repairs
Oconee 2	10/12/13	12/5/13	1304.45	Planned	Scheduled refueling outage
Oconee 3	10/24/13	10/26/13	60.48	Forced	Repair valve actuator to eliminate fluctuations in the feedwater control
Oconee 3	4/14/14	5/13/14	695.98	Planned	Scheduled refueling outage
Oconee 3	5/13/14	5/14/14	17.73	Outage Extension	Outage exceeded allocated days
Oconee 3	5/14/14	5/15/14	7.87	Forced	Resolve turbine vibration issues

[1] Outage concluded after the Review Period.

Office of Regulatory Staff

EXHIBIT LSS-6

Power Plant Availability (Percentage)

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

Coal-Fired Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Belews Creek	1	1110	83.0	93.4	90.9	91.4	74.0	**76.2**
Belews Creek	2	1110	90.2	73.0	91.6	86.9	85.9	**91.1**
Cliffside	5	552	91.8	65.4	93.8	90.5	91.8	**89.3**
Cliffside	6	825	n/a	n/a	n/a	n/a	82.2	**71.5**
Marshall	1	380	87.6	88.6	71.0	86.8	90.1	**90.7**
Marshall	2	380	88.0	88.5	88.2	90.7	89.9	**90.9**
Marshall	3	658	90.7	93.4	91.6	90.2	47.4	**70.6**
Marshall	4	660	90.2	94.4	89.7	88.2	84.4	**83.2**
SystemTotal		**5,675**	**88.4**	**84.9**	**89.6**	**89.3**	**80.7**	**82.9**
								(2009-2013)
NERC 5-year average (All Coal Plants)								**86.0**

Combined Cycle Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Buck	10	631	n/a	n/a	n/a	89.9	100.0	**93.0**
Dan River	7	637	n/a	n/a	n/a	n/a	90.7	**90.8**
Total		**1,268**	**n/a**	**n/a**	**n/a**	**89.9**	**95.4**	**91.9**
								(2009-2013)
NERC 5-year average (CC Plants)								**88.2**

Nuclear Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Catawba	1	1140	89.4	98.5	87.2	87.3	100.0	**92.9**
Catawba	2	1150	88.3	90.8	99.5	89.4	90.7	**90.7**
McGuire	1	1139	100.0	88.8	91.1	100.0	88.4	**99.5**
McGuire	2	1140	90.3	100.0	88.0	78.8	100.0	**90.8**
Oconee	1	847	84.4	99.3	79.0	90.0	94.3	**94.3**
Oconee	2	848	100.0	89.4	92.5	99.7	85.1	**85.1**
Oconee	3	859	91.8	90.1	99.7	85.1	99.3	**91.1**
Total		**7,123**	**92.0**	**93.8**	**91.0**	**90.0**	**94.0**	**92.1**
								(2009-2013)
NERC 5-year average (All Nuclear Plants)								**88.5**

EXHIBIT LSS-7

Office of Regulatory Staff

Power Plant Forced Outages Factors (Percentage)

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

Coal-Fired Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Belews Creek	1	1110	0.90	4.30	1.49	2.82	2.26	**3.84**
Belews Creek	2	1110	6.60	3.09	5.66	0.38	0.00	**0.31**
Cliffside	5	552	1.84	9.15	3.98	0.00	0.93	**0.82**
Cliffside	6	825	n/a	n/a	n/a	n/a	7.29	**4.58**
Marshall	1	380	4.54	4.68	5.16	1.54	1.68	**1.19**
Marshall	2	380	4.51	4.71	1.30	1.09	1.04	**1.83**
Marshall	3	658	3.19	3.60	2.46	0.28	7.52	**8.06**
Marshall	4	660	3.48	1.62	2.48	2.79	2.44	**16.44**
System Total		**5,675**	**3.01**	**3.54**	**2.64**	**1.23**	**2.65**	**4.02**
								(2009-2013)
NERC 5-year average (All Coal Plants)								**4.60**

Combined Cycle Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Buck	10	631	n/a	n/a	n/a	1.15	0.25	**0.04**
Dan River	7	637	n/a	n/a	n/a	n/a	2.47	**1.09**
Total		**1,268**	**n/a**	**n/a**	**n/a**	**1.15**	**1.36**	**0.56**
								(2009-2013)
NERC 5-year average (CC Plants)								**2.68**

Nuclear Plants

Plant	Unit	MW Rating	2009	2010	2011	2012	2013	Average Review Period
Catawba	1	1140	0.00	1.49	0.28	5.61	0.00	**0.00**
Catawba	2	1150	0.46	1.24	0.50	3.17	1.31	**1.31**
McGuire	1	1139	0.00	1.87	1.35	0.00	1.77	**0.52**
McGuire	2	1140	0.42	0.00	1.60	10.79	0.00	**0.69**
Oconee	1	847	4.44	0.73	2.19	2.09	5.69	**5.69**
Oconee	2	848	0.00	0.96	0.00	0.31	0.00	**0.00**
Oconee	3	859	0.88	2.28	0.34	0.00	0.69	**0.78**
Total		**7,123**	**1.55**	**2.14**	**1.56**	**5.49**	**2.37**	**2.25**
								(2009-2013)
NERC 5-year average (All Nuclear Plants)								**3.53**

EXHIBIT LSS-8

Office of Regulatory Staff
Generation Mix: June 2013 – May 2014
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

Month	Percentage [1]						
	Coal	Nuclear	Combined Cycle	Combustion Turbine	Hydro	JDA	Purchased Power
2013							
June	29.5	55.4	7.7	0.5	1.8	1.9	3.3
July	29.0	54.0	7.6	0.9	3.6	1.6	3.4
August	27.1	54.4	8.2	0.6	2.0	3.9	3.9
September	27.7	56.4	9.3	0.9	0.5	4.4	0.8
October	29.7	56.1	7.3	0.4	0.9	4.1	1.6
November	32.1	48.5	7.0	0.7	0.9	3.8	7.1
December	23.4	58.4	7.0	0.3	2.4	4.6	4.0
2014							
January	35.9	49.9	6.1	0.9	2.5	2.1	2.5
February	36.7	55.5	2.2	0.0	0.7	2.4	2.5
March	33.5	55.1	3.7	0.5	1.7	1.7	3.8
April	22.0	53.8	9.4	0.0	2.2	4.3	8.3
May	31.2	54.1	9.3	0.7	0.8	3.9	0.1
AVERAGE	**29.8**	**54.3**	**7.0**	**0.5**	**1.7**	**3.2**	**3.4**

[1] Numbers may not equal 100% due to rounding.

EXHIBIT LSS-9

Office of Regulatory Staff

Generation Statistics for Major Plants: June 2013 – May 2014

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

Plant	Fuel Type	Average Fuel Cost (Cents/kWh)	Generation (MWh)
McGuire	Nuclear	0.618	19,259,081
Catawba	Nuclear	0.625	18,455,366
Oconee	Nuclear	0.664	20,371,757
Belews Creek	Coal	3.569	13,850,927
Buck CC	Natural Gas	3.724	3,822,828
Dan River CC	Natural Gas	3.767	3,647,547
Marshall	Coal	3.842	10,246,471
Cliffside	Coal	3.952	5,450,326
Allen	Coal	4.423	2,342,141

Office of Regulatory Staff
SC Retail Comparison of Estimated to Actual Energy Sales
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

		2013							2014					
		June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Period Total
[1]	**Actual Sales (MWh)**	1,748,352	1,843,165	1,958,887	1,867,932	1,576,279	1,595,081	1,749,068	1,841,134	1,921,599	1,602,831	1,593,831	1,605,731	**20,903,890**
[2]	**Estimated Sales (MWh)**	1,800,244	1,925,787	1,984,539	1,942,649	1,580,576	1,572,078	1,718,649	1,858,221	1,831,869	1,623,923	1,604,615	1,568,044	**21,011,194**
[3]	**Difference [1]-[2]**	-51,892	-82,622	-25,652	-74,717	-4,297	23,003	30,419	-17,087	89,730	-21,092	-10,784	37,687	**(107,304)**
[4]	**Percent Difference [3]/[2]**	-2.88%	-4.29%	-1.29%	-3.85%	-0.27%	1.46%	1.77%	-0.92%	4.90%	-1.30%	-0.67%	2.40%	**-0.51%**

EXHIBIT LSS-10

Office of Regulatory Staff
SC Retail Comparison of Estimated to Actual Fuel Cost
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

		2013							2014					
		June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Period Average
[1]	**Actual Experience (¢/kWh)**	2.3218	2.3144	2.1498	1.9601	2.3272	2.6189	2.0178	2.7816	1.9314	2.2746	2.1592	2.3619	**2.2682**
[2]	**Original Projection (¢/kWh)**	2.3368	2.2790	2.3727	1.9693	2.0310	2.1239	2.0928	2.1153	2.0496	1.9710	1.9083	2.3604	**2.1342**
[3]	**Amount in Base (¢/kWh)**	1.9489	1.9489	1.9489	1.9489	2.0144	2.0144	2.0144	2.0144	2.0144	2.0144	2.0144	2.0144	**1.9926**
[4]	**Variance from Projection [1-2]/[2]**	-0.64%	1.55%	-9.39%	-0.47%	14.58%	23.31%	-3.58%	31.50%	-5.77%	15.40%	13.15%	0.06%	**6.28%**

EXHIBIT LSS-11

EXHIBIT LSS-12

Office of Regulatory Staff

History of Cumulative Recovery Account Report

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

PERIOD ENDING	OVER (UNDER) $
May-94	$6,609,897
November-94	$1,037,659
May-95	$5,088,619
November-95	($377,507)
March-97	($13,299,613)
March-98	($1,956,794)
March-99	$13,044,443
March-00	$26,703,441
March-01	$20,367,528
March-02	($7,446,417)
March-03	($1,121,094)
March-04	$11,424,295
June-05	($2,669,646)
June-06	$6,984,672
June-07	$1,632,482
May-08	($12,225,796)
May-09	$47,830,080
May-10	$57,028,206
May-11	($528,767)
May-12	$41,792,888
May-13	$25,476,878
May-14	($35,958,217)

Office of Regulatory Staff

EXHIBIT LSS-13

Calculation of Base Fuel Component

Duke Energy Carolinas, LLC

Docket No. 2014-3-E

Projected Fuel Expense: October 2014 through September 2015	
Cost of Fuel	$1,837,659,347
System Sales (MWh)	84,872,684
Average Cost (cents/kWh)	2.1652
Revenue Difference To be Collected from October 2014 through September 2015	
(Over)/Under-Recovery at September 30, 2014	$57,174,080
Projected S.C. Retail Sales (MWh)	21,498,812
Average Cost (cents/kWh)	0.2659
Base Fuel Cost Per kWh: Projected Period	
Average Fuel Cost (cents/kWh)	2.1652
Revenue Difference (cents/kWh)	0.2659
Base Fuel Component (cents/kWh)	***2.4311***

Office of Regulatory Staff
Proposed Fuel Factors
Duke Energy Carolinas, LLC
Docket No. 2014-3-E

	Duke Proposed Fuel Factors (¢/kWh)				ORS Proposed Fuel Factors (¢/kWh)			
Customer Class	**Base Fuel Factor**	**PURPA Capacity Costs**	**Environmental Fuel Factor**	**Total Fuel Factor**	**Base Fuel Factor**	**PURPA Capacity Costs**	**Environmental Fuel Factor**	**Total Fuel Factor**
Residential	2.4451	0.0249	0.0595	2.5295	2.4311	0.0249	0.0595	2.5155
General/Lighting	2.4451	0.0170	0.0492	2.5113	2.4311	0.0170	0.0492	2.4973
Industrial	2.4451	0.0108	0.0368	2.4927	2.4311	0.0108	0.0367	2.4786

EXHIBIT LSS-14

BEFORE

THE PUBLIC SERVICE COMMISSION

OF SOUTH CAROLINA

DOCKET NO. 2014-3-E

IN RE: Annual Review of Base Rates for Fuel Costs of Duke Energy Carolinas, LLC	))	**CERTIFICATE OF SERVICE**

This is to certify that I, Faith E. Shehane, have this date served one (1) copy of the **DIRECT TESTIMONY OF DAWN M. HIPP AND DIRECT TESTIMONY AND EXHIBITS OF ROBERT A. LAWYER AND LYNDA SLEIGHER SHAFER** in the above-referenced matter to the person(s) named below by causing said copy to be deposited in the United States Postal Service, first class postage prepaid and affixed thereto, and addressed as shown below:

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August 18, 2014
Columbia, South Carolina